

XX. *List of the Hemiptera collected in the Amazons by Prof. J. W. H. TRAIL, M.A., M.D., in the years 1873—1875, with descriptions of the new species.* By F. BUCHANAN WHITE, M.D., F.L.S.

[Read November 5th, 1879.]

PART I.

Fam. HYDROMETRIDÆ.

HYDROMETRA, Latr.

(*Limnobates*, Burm.)

1. *H. metator*, B. W., Journ. Linn. Soc. (Zool.) xiv. 486, 9.

Hab.—Uruçaca, Rio Juruá (November 1, 1874). One specimen.

2. *H. mensor*, n. sp.

Testaceo-brunnea, oculis rufo-brunneis, tibiis ad apicem tarsisque fusco-brunneis. Capite parte anteoculari parte postoculari fere $1\frac{1}{2}$ longiore; pronoto ante marginem posticum tuberculatis 2 subelongatis instructo; hemelytris dimidio abdominis tegentibus.

♂. Long. $11\frac{1}{2}$ — $12\frac{1}{2}$ mm.

Hab.—Manaos (August, 1875). Two specimens, “at light,” on board the steamer. The much smaller size will at once distinguish this from *H. metator*.

Fam. VELIIDÆ.

VELIA, Latr.

3. *V. virgata*, B. W., Journ. Linn. Soc. (Zool.) xiv. 486, 11.

Hab.—Igarapé da Caxocira, near Manaos (June 4, 1874), and Manaos (August, 1875). Two specimens, “at light,” on board the steamer.

NEOVELIA, B. W.

4. N. Trailii, B. W., Journ. Linn. Soc. (Zool.) xiv. 487, 12.

Hab.—Manaos (August, 1875). Two specimens, “at light.”

MICROVELIA, Westw.

5. M. mimula, B. W., Journ. Linn. Soc. (Zool.) xiv. 487, 13.

Hab.—Manaos (August, 1875). One specimen, “at light.”

Fam. HEBRIDÆ.

MESOVELIA, M. & R.

6. M. Mulsanti, n. sp.

Sordide flavo-testacea, subopaca, plus minus fusco-nebulosa; clypeo, ocellis, pronoto marginibus angustissimis foveisque lobi antici et lobo postico, scutello marginibus et maculis literam C simulantibus in utroque latere disci plagaæ anticæ sitis, hemelytris venis, tarsis articulo ultimo, necnon spinulis pedium plus minus nigro-brunneis; antennis articulis 1° 2° que ad apicem, 3° 4° que totis, tibiis ad apicem, tarsorum articulo 1° et articulo 2° ad apicem fusco-brunneis; hemelytris albidis, corio cellulæ interioris dimidio apicali, clavo margine apicali et margine interiore pone medium necnon macula discali fuscis; capite antice albo-piloso, macula utrinque prope basin antennarum fusca, et macula minore utrinque pone illas nigro-brunnea; pronoto lobo postico linea longitudinali flavo-testacea notato, angulis posticis emarginatis; scutelli plaga antica fovea semicirculari utrinque instructa; hemelytrorum membrana vena fusco-brunnea subsinuata, ex apice cellulæ interioris corii ad angulam apicalem interiorem membranæ currente et membranam a clavo separante, instructa, (membrana interdum obsoleta); corpore subtus albido-testaceo, albo-piloso.

Long. 4 mm.

Hab.—Rio Purus (September 24, 1874). Two specimens.

Rather closely allied to the only other known species of the genus, the European *furcata*, M. & R. In one specimen the clavus is much prolonged posteriorly, being larger than the corium, and is separated from the long and broad membrane by a curved vein; in the other

example the clavus is reduced to one-fourth the size, and there is no trace of the membrane nor of the vein that bounds the clavus.

I have dedicated this species to the distinguished founder of the genus, M. Mulsant, of Lyons.

Fam. GERRIDÆ.

HYDROBATES, Er.

7. H. regulus, B. W., Journ. Linn. Soc. (Zool.) xiv. 488, 14.

Hab.—Labria, Rio Purus (September 16, 1874). Several specimens.

LIMNOGONUS, Stål.

8. L. hyalinus, F., *Hydrometra hyalina*, F., Syst. Rhyn. 258, 4; *Limnogonus hyalinus*, Stål. Hem. Fabr. i. 133, 1.

Hab.—Manaos (1874). Four specimens.

9. L.? lotus, B. W., Journ. Linn. Soc. (Zool.) xiv. 488, 15.
Hab.—Manaos (1874). Six specimens.

This and the following do not altogether agree with Stål's definition of the genus, but may be placed in it, at least in the meantime.

10. L.? lubricus, B. W., Journ. Linn. Soc. (Zool.) xiv. 489, 16.

Hab.—Rio Purus (September 24, 1874) and Manaos (August, 1875). Three specimens.

Fam. NAUCORIDÆ.

PELOCORIS, Stål.

11. P. impicticollis, Stål, Enum. Hem. 5, 144, 2.

Hab.—Montealegre (November, 1873) and Camaná, Rio Javary (December 6, 1874). Two specimens.

12. P. procurrens, B. W., Journ. Linn. Soc. (Zool.) xiv. 489, 17.

Hab.—Montealegre (November, 1873). One specimen.

Fam. BELOSTOMATIDÆ.

ZAITHA, A. & S.

13. *Z. zelotypus*, n. sp.

Oblongo-subovata, sordide testacea; pronoto præcipue disco fusco-brunneo-nebuloso; hemelytris fusco-brunneis, margine antico dilute pallido-testaceo fusco-brunneo-maculato; scutello fusco-brunneo leviter violaceo-micante; capite pedibusque fusco-brunneo-maculatis; pronoti disco linea angustissima longitudinali flavo-testacea ornato. Pronoto latitudine antica $\frac{1}{4}$ breviore, lateribus distincte sed leviter et late sinuatis, margine postieo late sinuato; membrana 9-nervosa; tibiis vix dilatatis.

Long. 11 mm., lat. $5\frac{1}{2}$ mm.

Hab.—Montealegre (November, 1873). One specimen.

Closely allied to *Z. micantula*, Stål, and perhaps only a variety thereof, but seems to differ in the colour, form of pronotum, number of the membrane-nerves, and in the smaller stature.

Fam. NEPIDÆ.

RANATRA, Fab.

14. *R. annulipes*, Stål, Öfv. Vet. Ak. Förh. 1854, 241, 1, and 1861, 204, 5.

Hab.—Pará (February 25, 1875). One specimen.

Though the back of the abdomen is blackish, and not sanguineous fuscous as described, I think I am right in the determination of this specimen.

15. *R. rabida*, n. sp.

Brunneo-grisea, abdomine dorso concolor; pedibus obsolete brunneo-annulatis; stigmatibus concoloribus dorso pellueentibus; fronte convexiusculo; prosterno anterius bisulcato; femoribus anticis pone medium intus unidentatis, extus ibidem et prope apicem inermibus, margine inferiore prope apicem subsinuato; femoribus intermediis posticisque subæquilongis, his ad medium segmenti penultimi abdominis porrigendis; metasterno convexo posterius dilatato et leviter carinato, margine postico trianguli apice truncato, basin coxarum posticarum vix superante;

segmento primo ventrali inter coxas longe prominulo; aidothecæ appendicibus corpore æquilongis.

Long. 27 mm., lat. $2\frac{1}{2}$ mm.

Hab.—Lages, mouth of Rio Negro (August 3, 1874). One specimen.

Distinct from the other described American species in the form of the metasternum, more slender stature, &c.

Fam. NOTONECTIDÆ.

ANISOPS, Spin.

16. A. amnigenus, n. sp.

Sordide testaceo-albidus, laevis, nitidus, pilis longis pallidis sparse vestitus; pedibus flavescenti-albidis plus minus brunneo-infuscatis; abdomine fusco-atro; oculis griseo-brunneis magnis posterius ad marginem posticum capitis conjunctis (δ) vel fere conjunctis (φ); vertice leviter convexo-prominulo in medio anguste longitudinaliter sulcato; fronte leviter convexo prominulo; pronoto (δ) anterius obsoletissime carinato; tarsis anticis in utroque sexu dimeris; tibiis tarsisque posticis pilis pallidis et fuscis instructis.

Long. 5— $5\frac{1}{2}$ mm.

Hab.—Manaos, August, 1875.

Two specimens, not in the best condition for describing. Hence I have not been able to describe minutely the coloration of the underside or of the legs.

MARTAREGA, gen. nov.

Corpus oblongum, cylindricum. Caput magnum, supra subquadratum, margine antico pronoto latius; vertice anguste triangulari, convexo-prominulo; fronte linearie convexiusculo. Oculi maximi supra visi suboblongi, per dimidium posterius longitudinis conjuncti, margine postico rotundato-producto et pronoto incumbente; ad latera visi semilunares, margine postico bisinuato; infra visi triangulares. Antennæ articulo 1° brevissimo latiore quam longior; 2° crasso, longo, cylindrico; 3° cylindrico, 2° longiore sed multo graciliore, seriebus duabus pilis longis instructo, pilis seriei posterioris capitulatis; 4° dimidio 3ⁱ æquilongo, graciliore, cylindrico. Rostrum quadriarticulatum, articulis 1° 2° que brevibus, transversis, 3° 1° 2° que simul sumptis æqui-

longo, 4° brevi, conico. Labrum triangulare acutum, medium articuli 2ⁱ rostri attingens. Pronotum breve, transversum, longitudine media fere triplo latius; margine antico bisinuato; margine postico late et leviter sinuato; marginibus lateralibus acutis oblique sinuatis; lateribus prothoracis excavato-concavis. Scutellum mediocre triangulare apice acuminato. Metanotum scutello fere duplo longius. Hemelytra membranacea, nec membrana nec sutura clavi distinctis. Alæ desunt. Pedes spinulis nonnullis instructi; tarsis anticis monomeris (♂) vel dimeris (♀); tarsis intermediis monomeris; tarsis posticis dimeris; femoribus, tibiis et tarsis posticis inter se subæquilongis.

Resembling *Anisops* in general appearance, but very different in structure.

17. M. membranacea, n. sp.

Sordide testaceo-albida, hyalina, nitida; oculis pallide rufo-brunneis; hemelytris hyalinis vittis 2 longitudinalibus percurrentibus opacis albidis, una exteriore externe angustissime nigro-marginata ad aream marginalem sita, altera interiore pone medium furcata; labro, articulo 3^o rostri (marginibus exceptis), femoribus ad basin, tarsis ad apicem piceo-brunneis; rostro articulo 4^o piceo-nigro; corpore subtus et tibiis tarsisque posticis longe nigropilosus.

Long. 4—4½ mm.

Hab.—Manaos (1874) and Rio Purus (September 24, 1874). Several specimens.

Fam. CORIXIDÆ.

CORIXA, Geoff.

HETEROCORIXA, *subgen. nov.*

Caput pronoto anterius paullo latius; margine postico bisinuato; vertice longitudinaliter obtuse carinato. Oculi magni triangulares marginem posticum capitis haud attingentes; angulo inferiore longe producta subacuta; angulo exteriore marginem posticum capitis fere attingente. Pronotum breve vertice subæquilongum. Membrana hemelytri sinistri membranacea, linea suturæ distinctissima; membrana hemelytri dextri coriacea, corio concolor, linea suturæ haud discreta.

Unfortunately, all the specimens I have seen are ♀s, and therefore I know nothing of the structure of the ♂ abdomen, and cannot say whether it is asymmetrical or whether a strigil exists. Though the facies of the insect is quite that of *Corixa*, the form of the eyes and the structure of the left hemelytron brings it into relation with *Sigara*, and the short pronotum somewhat resembles that of *Cymatia*. When the structure of the ♂ is ascertained, it may be necessary to give *Heterocorixa* generic rank.

18. C. (II.) *hesperia*, n. sp.

Nigro-fusca, subnitida, punctis et signaturis vermiculatis pallido-testaceis dense notata; pronoto lineis transversis 5 angustissimis fusco-nigris; clavo ad angulum interiorem subtestaceo lineolis irregularibus obliquis fusco-nigris notato; embolio et area marginali corii opacis innotatis; membrana dextra corio concolori, margine apicali subinnotato; membrana sinistra pallide fusca innotata, margine antico fusco-brunneo, linea suturæ anguste fusco-brunnea; abdomine dorso sordide testaceo fusco-nebuloso; pectore pallido-testaceo; ventre sordide testaceo, segmentis 4°, 5°, 6°que ad angulos posticos fusco-maculatis. Tarsis anticis tibiis anticis haud duplo longioribus, cultratis, acutis; tarsis intermediis unguiculis sublongioribus; tarsis posticis fusco-pilosis.

♀ Long. $5\frac{1}{2}$ mm., lat. 2 mm.

Hab.—Prainha (November, 1873). Five specimens.

SIGARA, Fab.

19. S. *fuscata*, Stål, Eugen. Hem. 268, 138.

Hab.—Prainha (December, 1873) and Ilha das Araras, Rio Madeira (June, 1875). Two specimens which probably belong here, though not exactly agreeing with Stål's rather short description.

20. S. *selecta*, n. sp.

Brunneo-fusca, capite et scutelli disco dilutioribus, subtus pedibusque testaceo-albidis; hemelytris maculis pallidis indistincte irroratis, area marginali pallide fusca maenlis 4 fusco-brunneis notata; hemelytris interdum sparsissime fusco-brunneo-punctatis.

Long. 5 mm.

Hab.—Manaos (August, 1875), "at light." Many specimens.

These and the following species of *Sigara* form a group distinguished by several characteristics. The scutellum is larger, being as long or longer than the head seen from above; the pronotum is very short, much shorter than the head or the scutellum, and somewhat crescentic in shape; and at the base of the clavus is a pale V-shaped mark, of which one limb rests on the basal margin, and the apex fills the inner basal angle. Many of Dr. Trail's specimens, having been preserved in alcohol, are not in the best condition for determination, as when dried the pronotum and hemelytra get more or less distorted. The most evident distinction between the species are the markings of the hemelytra, the comparative stature, and the shape of the head. The species just described (*S. selecta*) can be readily separated from the others by its larger size and indistinctly-mottled hemelytra.

21. *S. signata*, n. sp.

Dilute fusco-grisea, subtus pedibusque griseo-albidis; clavo sutura, margine interiore et vitta discali, corio lineolis longitudinalibus nonnullis plus minus fractis irregularibusque aurantio-rubris.

Long. 3 mm.

Hab.—Rio Purus (November, 1873). Nine specimens.

Readily distinguished by the orange-red markings, which vary in intensity, and are in the form of dots and blotches, and not in regular bands.

22. *S. socialis*, n. sp.

Brunneo-fusca, capite, subtus pedibusque fusco-albidis; clavo marginibus irregulariter, corio lineolis longitudinalibus plus minus indistinctis, area marginali maculis 3 fuscis; membrana elytri sinistrorsi leviter infuscata ad apicem corii macula fusca notata; femoribus posticis subtus vitta et serie punctorum fuscis sæpissime notatis; vertice subquadrato, margine postico longitudine media subæquilongo.

Long. $2\frac{1}{4}$ — $2\frac{3}{4}$ mm.

Hab.—Rio Madeira up to São Antonio da Boa Vista (June, 1874); Anana, Upper Amazon (September, 1874); Urubu Caxoeira, Rio Juruá (November, 1874); Rio Trombatas (March, 1875); and Manaos (August, 1875). Very many specimens, "at light," &c.

Varies very much in the degree of coloration and markings. In some cases the hemelytra have only pale

fuscos longitudinal lines; in others the lines are not only more distinct, but are connected here and there by cross bands, and on the right hemelytron are joined before the apex by a curved band. It is possible that more than one species may be included, but as I have failed to find structural differences, I have not ventured to separate any but the following, and even it as only a more persistent variety.

23. *S. socialis*, var. *sobrina*.

Exemplis typicis similis sed paullo major ac dilutior; membrana sinistrorsa vix infuscata; femoribus posticis vix fusco-notatis.

Long. 3 mm.

Hab.—Urucaca, Rio Jurná (November, 1874). Many specimens.

24. *S. seducta*, n. sp.

S. sociali, var. *sobrinæ* persimilis, sed statura paullo majore, colore luteo-brunnea, et vertice paullo transversiore videtur distincta.

Long. 3 mm.

Hab.—Rio Juruá (October and November, 1874). Many specimens, “at light.”

It is with much hesitation that I have given this specific rank. At first sight it looks quite different from any form of *socialis*, but this is chiefly due to its yellow-brown colour and rather larger size. Beyond these there is no very tangible character by which to separate it. It is as variable as *socialis* in the markings of the hemelytra, these being in some examples almost unmarked, and in others adorned with longitudinal and transverse fuscos bands and lines of variable intensity. The head between the eyes seems to be more decidedly transverse than in *socialis*.

25. *S. simulans*, n. sp.

Fusco-brunnea, capite, pronoto, scutelloque disco dilutioribus; corpore subtus griseo-albido; clavo marginibus irregulariter, corio lineolis longitudinalis (in hemelytro dextro prope apicem anastomosantibus) area marginali maeulis 3, membrana ad apicem corii macula 1 obscurioribus; membrana hemelytri sinistrorsi dilutissime brunneo-fusca; femoribus posticis subtus vitta longi-

tudinali et serie punctorum brunneis signatis; vertice transverse oblongo, margine postico longitudine media breviore.

Long. $3\frac{1}{2}$ mm.

Hab.—Upper Amazon (October 13, 1874) and Tonantins (December 12, 1874). Three specimens.

In many respects like *S. socialis* but rather larger, hemelytra apparently thicker, and vertex differently shaped. Sometimes the frons has between the eyes two brown spots.